IN THE CLAIMS

Please cancel claims 29-30, and 35.

Please add claims 36-43.

Please amend claims 1-7, 10, 27, 28, and 31 as follows:

1.(Currently Amended) An automated method for analyzing substances containing cellular material, the method comprising ~~the steps of~~:

activating a test apparatus having at least one liquid ejection device acting in cooperation with an electronically actuated printhead to dispense a first defined volume from the at least one liquid ejection device, the volume containing at least one potential pharmaceutically active agent, the first defined volume dispensed into contact with at least one defined volume of a substance containing a target cellular material wherein the target cellular material is at least one of whole cells and recognized cellular components from intact cells;

detecting in the at least one defined volume of the substance ~~containing the cellular material~~ a pharmacological effect on the target cellular material triggered by introduction of the first defined volume of the at least one potential pharmaceutically active agent;

generating information indicative of the effect of the at least one ~~potentially~~ potential pharmaceutically active agent on the target cellular material; and

analyzing the generated information to generate a correlation factor of the relative effectiveness of the agent on the target cellular material.

2.(Currently Amended) The automated method of claim 1 wherein the at least one liquid ejection device comprises at least one cartridge containing the at least one potential pharmaceutically active agent, the cartridge removably associated with the liquid ejection device and including at least one interior chamber defining a fixed volume for containing the at least one potential pharmaceutically active agent.

3.(Currently Amended) The automated method of claim 1, further comprising:

positioning the at least one defined volume of containing the target cellular material on a suitable testing substrate, the positioning step occurring prior to the activation of the test apparatus,

wherein the at least one defined volume of the substance containing the target cellular material is maintained in contact with the ~~a~~ suitable testing substrate, the suitable testing substrate having a contact surface which is reactively inert to interaction with the target cellular material under study.

4.(Currently Amended) The automated method of claim 3 wherein the at least one defined volume of the substance containing the target cellular material comprises a plurality of individual volumes, wherein each individual volume is between about 1 and about 500 picoliters and wherein characteristics of the substance containing the target cellular material may vary from individual volume to individual volume.

5.(Currently Amended) The automated method of claim 4 wherein the at least one liquid ejection device dispenses varying quantities of the at least one potential pharmaceutically active agent to contact ~~with~~ the individual volume of the substance containing the target cellular material.

6.(Currently Amended) The automated method of claim 4 wherein the at least one liquid ejection device dispenses a quantity of the at least one potential pharmaceutically active agent into contact with selected individual volumes present, the dispensed quantity varying compositionally across the individual volumes of the substance containing the target cellular material.

7.(Currently Amended) The automated method of claim ~~1~~ 4 wherein the ~~at least one defined volume of a substance containing cellular material is present as a~~ plurality of individual samples are arranged on the suitable testing surface in an array capable of yielding statistically viable data.

8.(Original) The automated method of claim 7 wherein the individual samples are arranged in a defined two-dimensional array.

9.(Original) The automated method of claim 7 wherein the individual samples are arranged in an interactive linear array.

10.(Currently Amended) The automated method of claim 1 further comprising the step of interactively activating at least one second liquid ejection device in cooperation with an electrically actuated printhead to dispense a second defined volume of a potential pharmaceutically active substance into contact with the at least one defined volume of the substance containing cellular material.

11. – 26.(Cancelled)

27.(Currently Amended) The automated method of claim 2 wherein the cartridge removably associated with the at least one liquid ejection device comprises ~~a container having an interior volume containing the at least one potential pharmaceutically active agent and~~ at least one memory storage device capable of capturing and maintaining information pertaining to at least one of a cartridge function and the at least one potential pharmaceutically active agent~~contents~~.

28.(Currently Amended) The automated method of claim 27 wherein the cartridge removably associated with the at least one liquid ejection device further comprises control

electronics configured to convert received information into control output pertinent to analyzing the generated information~~at least one aspect of the effect analysis~~.

29.(Cancelled)

30.(Cancelled)

31.(Currently Amended) The automated method of claim 1 further comprising~~the steps of~~:

upon generation of the correlation factor, altering dispensation of the potential pharmaceutically active material in an iterative manner in subsequent volumes of a substance containing cellular material.

32.(Previously Presented) The method of claim 31 wherein the iterative alteration is a function of ongoing factorial analysis.

33.(Previously Presented) The method of claim 32 wherein each of the plurality of volumes are a range between about 1 picoliter and 500 picoliters.

34.(Previously Presented) The method of claim 33 wherein the first volume is present as a plurality of volumes arranged in a two dimensional array.

35.(Cancelled)

36.(New) An automated method for analyzing substances containing cellular material, the method comprising:

activating a test apparatus having at least one liquid ejection device, including at least one cartridge removably associated with the at least one liquid ejection device and including at least one interior chamber defining a fixed volume containing at least one potential pharmaceutically active agent, acting in cooperation with an electronically actuated printhead to dispense a first defined volume containing the at least one potential pharmaceutically

active agent from the at least one liquid ejection device, the first defined volume dispensed into contact with at least one defined volume of a substance containing a target cellular material wherein the cellular material is at least one of whole cells and recognized cellular components from intact cells;

detecting in the at least one defined volume a pharmacological effect on the target cellular material triggered by introduction of the first defined volume of the at least one potential pharmaceutically active agent;

generating information indicative of the effect of the at least one potential pharmaceutically active agent on the target cellular material; and

analyzing the generated information to generate a correlation factor of the relative effectiveness of the at least one potential pharmaceutically active agent on the target cellular material.

37.(New) The method of claim 36 wherein activating the test apparatus comprises:

providing at least one memory storage device in the cartridge that is capable of capturing and maintaining information pertaining to at least one of a function and the at least one potential pharmaceutically active agent contained within the cartridge.

38.(New) The automated method of claim 37 wherein activating the test apparatus comprises:

providing control electronics in the cartridge configured to convert the generated information as part of analyzing the generated information.

39.(New) The automated method of claim 36 wherein activating the test apparatus comprises:

removably associating the cartridge relative to the printhead.

40.(New) The automated method of claim 36 wherein activating the test apparatus comprises:

integrally associating the cartridge to the printhead as a single, monolithic structure.

41.(New) An automated method for analyzing substances containing cellular material, the method comprising:

activating a test apparatus having at least one liquid ejection device acting in cooperation with an electronically actuated printhead to dispense a first defined volume containing the at least one potential pharmaceutically active agent from the at least one liquid ejection device, the first defined volume dispensed into contact with at least one defined volume of a substance containing a target cellular material wherein the target cellular material is at least one of whole cells and recognized cellular components from intact cells;

detecting in the at least one defined volume a pharmacological effect on the target cellular material triggered by introduction of the first defined volume of the at least one potential pharmaceutically active agent;

generating a first information indicative of the effect of the at least one potential pharmaceutically active agent on the target cellular material; and

dispensing, based upon the generated information, a second defined volume of at least one potential pharmaceutically active agent into contact with the at least one defined volume of the substance containing the target cellular material; and

generating a second information indicative of the effect of the second defined volume of at least one potentially pharmaceutically active agent on the target cellular material.

42.(New) The method of claim 41 wherein dispensing the second defined volume comprises selecting the at least one potential pharmaceutically active agent of the second defined volume to differ from the at least one potential pharmaceutically active agent of the first defined volume by at least one of a type, concentration, and a quantity of the respective at least one potential pharmaceutically active agents of the first and second defined volumes.

43.(New) The method of claim 42 wherein dispensing the first defined volume and dispensing the second defined volume comprises:

dispensing the first defined volume from a first chamber within the cartridge and the second defined volume from a second chamber within the cartridge separate from the first chamber.